**Modularization in Software Engineering:**

Modularization is a process of dividing a complex monolithic software system into smaller, reusable, cohesive modules. These modules are designed to capture a specific functionality.

Modularization in software engineering can contribute to energy savings in several ways

* While developing the code, all the codes will be compiled and build will be created for entire code. This will be happened repeatedly for all the releases. In modularization, only the specific/affected module will be modified/compiled and build will be generated. It is more efficient than monolithic process to save energy consumption.
* While computing, only a specific module can be loaded in Memory and it will consume less energy.
* Since it is a smaller module, it can be reused in other software development.
* Unused modules can be inactivated/removed at any time and energy will be minimized.
* Web Applications: when a use request for a specific feature, only the relevant/selective modules will be loaded and reducing server-side energy consumption.
* IoT Devices: modularization helps to manage power-hungry components. By activating only necessary modules such as sensors and communication interfaces energy usage will be minimized.
* Mobile Apps: Selective features can be loaded on demand and save energy. For example, an ecom app can load/process payment module only during checkout.
* Modularization enables the use of **energy-aware algorithms** that are designed with the goal of minimizing energy consumptionduring execution.